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UNITED STATES PATENT APPLICATION TRANSMITTAL FORM

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Washington, D.C. 20231

Docket No.: 359.6559USU

Sir:

Transmitted herewith for filing is the patent application of

Inventor: Lawrence S. Walters, Jr.

For: EASY OPEN CONTAINER CLOSURE

Enclosed are:

XXX Specification (10 pps.) consisting of: Description (6 pps); Claims (3 pps);
 Abstract (1pp);

XXX 1 sheet of drawings;

XXX Declaration and Power of Attorney;

XXX Verified Statement (Declaration Claiming Small Entity Status –
 Independent Inventor);

 Information Disclosure Statement (with copies of patent);

 Form - PTO-1449;

XXX Priority of U.S. Patent Application Serial No. 60/136,332 filed on
26 May 1999, is claimed under 35 U.S.C. §120;

The Filing Fee is calculated below.

CLAIMS AS FILED				
(1) For	(2) Number Filed	(3) Number Extra	(4) Rate	(5) Basic Fee \$690.00
Total Claims	14 - 20 =	0	x \$18.00	\$0
Independent Claims	3 - 3 =	0	x \$78.00	\$0
Multiple Dependent Claim Fee		x \$260.00 = \$0.00		
TOTAL FILING FEE		\$690.00		
1/2 FILING FEE FOR SMALL ENTITY		\$345.00		

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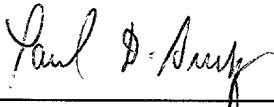
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XXX A check in the amount of \$ 345.00 to cover the filing fee is enclosed.

XXX The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§1.16 and 1.17 which may be required with this communication or during the entire pendency of the application, or credit any overpayment, to **Deposit Account No. 01-0467**. A duplicate copy of this Form is enclosed.

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May 26, 2000
Date of Signature

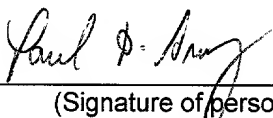


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CERTIFICATE OF EXPRESS MAILING

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Certificate No. **EL568962408US**, service under 37 CFR §1.10 and is addressed to: Box Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231 on May 26, 2000.

Paul D. Greeley
(Typed name of person mailing paper)



(Signature of person mailing paper)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant or Patentee: **LAWRENCE S. WALTERS, JR.**

Serial or Patent No Not Yet Assigned

Docket No.: 359.6559USU

Filed or Issued: Herewith

For: **EASY OPEN CONTAINER CLOSURE**

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR §§1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR §1.9(c) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled **EASY OPEN CONTAINER CLOSURE**

described in

☒ the specification filed herewith
☐ Application, Serial No.: _____, filed: _____
☐ Patent No.: _____, issued: _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR §1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR §1.9(d) or a nonprofit organization under 37 CFR §1.9(e).

Such person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ no such person, concern, or organization.
☐ persons, concerns, or organizations listed below.*

*NOTE: Separate verified statements are required from each named person, concern, or organization having rights to the invention averring to their status as small entities. (37 CFR §1.27).

FULL NAME: **LAWRENCE S. WALTERS, JR.**
ADDRESS: **505 AMITY ROAD
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☒ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR §1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

LAWRENCE S. WALTERS, JR.
NAME OF INVENTOR

SIGNATURE

MAY 26, 2000
DATE

EASY OPEN CONTAINER CLOSURE

The present invention is based on U.S. Provisional Patent Application No.

5 60/136,332, filed on May 26, 1999.

The present invention relates generally to an improved container closure. More particularly, the present invention relates to a container closure with a handle, wherein the handle acts as a lever when squeezed against the neck of the container. The force on the
10 lever handle is transferred to the container closure, forcing a portion of the closure to disengage the bead of the container and release the closure's hold on the container. Once the closure's hold is released, the closure is easily removed from the container. The closure is reusable and can be replaced over the container opening to secure the container's contents for storage or transport.

BACKGROUND TO THE INVENTION

Container closures, such as bottle caps, are typically composed of a circular piece of
20 die stamped steel or other suitable metal that is crimped over the top lip or bead of a bottle. Typically, the cap is removed with a tool that grabs a portion of the lower edge of the bottle cap, lifting it outward and upward. This movement has the effect of distorting the crimped portion and bottom edge of the cap, and often bends the top of the cap in such a way as to permanently crease it into a shape that prevents it from being reused. This technology is
25 quite old and well established. A more recent improvement involves the twist off bottle cap similar to the threaded lid on a jar.

Removing a cap from a bottle often requires a separate tool and two hands, one to hold the bottle and the other to manipulate the opener. This bottle opener may be
30 permanently affixed to a wall or a machine, thereby requiring the use of only one hand, but still such a tool is needed. One common feature of nearly all bottle cap removers is the

similarity in which they operate. Whether they employ a single lever with a hooked edge for engaging the bottom of the bottle cap, or a more elaborate structure, each bottle cap remover is a separate device that is brought in contact with the cap to pry the cap outward and off in an upward direction. Once the cap is removed, it is usually deformed and unsuitable for reuse.

Waluda discloses in U.S. Patent No. 5,267,494 a bottle cap opener separate from the bottle cap that is fashioned into a key.

Reyes discloses in U.S. Patent No. 5,265,501 a bottle cap opener separate from the bottle cap and a collection method that is affixed to a vertical surface.

Thomas, et al. discloses in U.S. Patent No. 4,976,172 a bottle cap opener separate from the bottle cap that also incorporates a key ring for holding keys.

Phillips discloses in U.S. Patent No. 4,967,622 a multi-function beverage container opener that is separate from the bottle cap and which incorporates a number of methods for opening a variety of different beverage containers.

Tricinella discloses in U.S. Patent No. 4,949,600 a bottle cap opener separate from the bottle cap with a specialized edge for engaging the lower edge of the bottle cap.

Tricinella discloses in U.S. Patent No. 4,864,898 a bottle cap opener separate from the bottle cap and similar in design and function to the device disclosed by Tricinella in U.S.

Patent No. 4,949,600.

Rodriquez Salcedo discloses in U.S. Patent No. 4,852,432 a bottle cap opener separate from the bottle cap, which involves a "U" shaped head for wrapping around the bottle neck, a

handle, and a magnetic appendix with a hinged structure for lifting the cap off the bottle.

Davis discloses in U.S. Patent No. 4,702,130 a bottle cap remover separate from the bottle cap which involves two levers and is capable of preserving the integrity of the removed crown cap.

Clapp discloses in U.S. Patent No. 4,653,354 a method for making a bottle cap remover separate from the bottle cap which involves sintering compressed powdered metal in a die at high heat.

Jacobs discloses in U.S. Patent No. 4,633,740 a bottle cap remover separate from the bottle cap which is capable of removing twist-off caps and crown caps.

Rowland discloses in U.S. Patent No. 4,433,597 a bottle cap remover separate from the bottle cap which is designed to twist or pry-off tapered caps.

Gaskins discloses in U.S. Patent No. 4,409,864 a bottle cap remover separate from the bottle cap which employs a handle and cantilever arms with hooks for engaging the bottle cap under the cap's peripheral lip.

There are also a number of changes disclosed to the bottle cap itself. Lee discloses in U.S. Patent No. 5,265,748 a bottle cap with an integrated remover affixed to the side of the cap at the cap's bottom edge. The cap is removed by lifting the opener or tab up over the cap, which has the effect of lifting the cap at that edge. This opener acts as a lever and uses the side of the cap as a fulcrum, which has the effect of pulling that edge of the cap upward and off the bottle. This action deforms the cap upon removal and prevents the cap from being effectively reused.

Allaire discloses in U.S. Patent No. 4,679,697 a bottle cap with a defined line of weakness that allows the cap to crease at that line upon removal. Once the creased crown cap is removed, it is not easily reusable.

5 Prohaska discloses in U.S. Patent No. 4,564,116 a unique bottle closure cap with a side wall of elastomeric material and an integrated rip tab formed as part of the side wall. A pull on the rip tab allows the cylindrical wall to tear approximately halfway around the closure cap and permits the cap to be removed.

10 Prohaska discloses in U.S. Patent No. 4,431,111 another bottle cap closure and removal system similar to the device disclosed in U.S. Patent No. 4,564,116.

Siemonsen discloses in U.S. Patent No. Re. 28,862 a bottle cap with a tear section on the cap, and a ring pull tab to tear away a selected section.

SUMMARY OF THE INVENTION

15 The present invention provides a container closure with a handle, wherein the handle acts as a lever when squeezed against the neck of the container. The force on the lever handle is transferred to the container closure forcing a portion of the closure to slip over the bead of the container and release the closure's hold on the container's top. Once the closure's hold is released, the closure is easily removed from the container. The closure is reusable and can be replaced over the container opening to secure the container's contents for storage or transport.

DESCRIPTION OF THE DRAWINGS

30 FIG. A is a schematic view of the neck of a bottle with the closure apparatus in the closed position.

FIG. B is a schematic view of the neck of a bottle with the closure apparatus in the open position.

5

DETAILED DESCRIPTION OF THE PREFERRED INVENTION

The container closure according to the present invention is best illustrated by reference to FIGs. A & B. Assuming a bottle neck 1 with a terminal end generally represented as 2, an upper neck portion 5 and a lower neck portion 6. The terminal end 2 has an orifice 3 and a bead 4 for securing a cap portion 11. The cap portion 11 has attached to it a lever handle 12. The handle 12 is attached to the skirt 9 and is fashioned in such a way as to contact the outer surface of the upper portion of the bottle neck 5. The fulcrum portion 15 of the handle 12 forms a fulcrum for the transfer of force. The lower handle portion 14 at the fulcrum portion 15 departs sharply down and away from the bottle neck lower portion 6, providing a gap between the lower handle portion 14 and the bottle neck lower portion 6 for the movement of the handle 12 during the opening process. The upper handle portion 13, where it attaches to skirt 9, must be strong and must contact an appropriate amount of the circumference of skirt 9 to have the effect of disengaging enough of peripheral lip 10 from bead 4 when the lower handle portion 14 is depressed towards the bottle neck lower portion 6.

Cap 11 has a top panel 7 with a peripherally depending side wall 8. The side wall 8 conforms to the shape of the bead 4 and extends under the bead 4 forming a peripheral lip 10 which engages the bottom of the bead 4, securing the cap 11 to the bottle neck 1. The skirt 9 is attached to side wall 8 and extends radially downward away from the upper bottle neck portion 5.

The cap 11 could be fashioned out of steel, aluminum, or fiberglass, but most preferably would be made from a strong plastic material. This plastic must be strong enough to withstand general use and handling, as well as any typical pressures emanating from the contents of the bottle, but flexible enough to slip over the bead 4 of the bottle neck 1. The

handle 12 must be strong and must contact a sufficient portion of the bottle neck upper portion 5 to provide the support and strength necessary to disengage the cap 11 and not deform the handle 12.

5 Referring to FIG. B, to remove cap 11 from bottle neck 1, the user would hold the bottle by the neck and with one or more fingers, or with the palm of the same hand which is holding the bottle, squeeze the lower handle portion 14 toward the bottle neck lower portion 6. The pressure on handle 12 would exert a strong force at fulcrum portion 15 against the bottle neck 1 forcing the upper handle portion 13 away from the bottle. The outward and
10 upward pressure on the upper handle portion 13 would cause a similar force to be exerted on that portion of the skirt 9 at point 16 causing that portion of the side wall peripheral lip 10 to disengage the bead 4. Once the peripheral lip 10 is free from the bead 4, either hand could easily remove the cap 11.

15 Since cap 11 is not deformed during the removal process it can be reused by firmly pressing it down over the bead 4 until the peripheral lip 10 engages the bottom of the bead 4. This process of removing and reusing the cap 11 numerous times could continue at the discretion of user.

20 Although referred to for illustration purposes as a bottle and a bottle cap, the present invention would also apply to jars and other containers seeking to employ the convenience and economy of a reusable cap system with rapid removal and reattachment.

25 While the invention has been described in combination with embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art in light of the foregoing description. Accordingly, it is intended to embrace all such alternatives, modifications and variations as fall within the spirit and broad scope of the appended claims.

What is claimed is:

1. An easy open closure apparatus for a container having a neck with a terminal end having an
 5 orifice and a radially outwardly extending bead having an outer surface and a radially outwardly
 extending undercut, an upper portion, and a lower portion, comprising:

a cap portion having a top panel, a peripherally depending side wall, and a peripherally
 depending skirt; and

10 a handle depending from said cap portion.

2. The easy open closure apparatus in claim 1, wherein said side wall further comprises an inner
 surface which conforms to said bead outer surface and a radially inwardly extending peripheral
 15 lip that engages said bead undercut securing said closure to said container.

3. The easy open closure apparatus in claim 1, wherein said skirt communicates and depends
 from said side wall lip wherein said skirt extends radially downward away from said container
 neck.

4. The easy open closure apparatus in claim 1, wherein said handle further comprises an upper
 portion, a lower portion, and a fulcrum portion there between said upper and lower portions.

5. The easy open closure apparatus in claim 4, wherein said handle upper portion communicates
 25 and depends from said skirt and further comprises an inner surface and an outer surface.

6. The easy open closure apparatus in claim 5, wherein said inner surface abuts the outer surface
 of said container neck upper portion over an extended length wherein said inner surface is
 substantially vertical relative to the plane of said container top panel.

7. The easy open closure apparatus in claim 4, wherein said handle lower portion communicates and depends from said handle upper portion and further comprises an inner surface and an outer surface.

5 8. The easy open closure apparatus in claim 4, wherein said handle lower portion radiates outward from said container neck lower portion such that a gap is formed there between.

9. The easy open closure apparatus in claim 4, wherein said fulcrum portion abuts said container neck outer surface such that upon application of pressure to said lower handle portion outer surface, the side wall lip is lever-action disengaged from the bead undercut.

10

10. The easy open closure apparatus in claim 1, wherein said apparatus is comprised of a material selected from the group consisting of metal, plastic, fiberglass, and composites thereof.

15 11. The easy open closure apparatus in claim 1, wherein said material allows said cap portion to temporarily deform, allowing said cap portion to disengage said bead and be re-secured to said bead, said cap portion always returning to its original form.

20 12. The easy open closure apparatus in claim 10, wherein said material avoids deformation of said first and second handle portions while pressed.

25 13. A method of opening a container using the easy open closure apparatus for a container having a neck with a terminal end having an orifice and a radially outwardly extending bead having an outer surface and a radially outwardly extending undercut, an upper portion, and a lower portion, comprising:

a cap portion having a top panel, a peripherally depending side wall having a radially inwardly extending peripheral lip that engages said bead undercut securing said closure to said container, and a peripherally depending skirt; and

30

a handle depending from said cap portion, said handle further comprising an upper portion, a lower portion, and a fulcrum portion there between said upper and lower portions; comprising the steps of:

- 5 holding the neck of said container and the lower handle portion of said handle with at least one hand; and

depressing said lower handle portion toward said neck of said container until said peripheral lip disengages said bead undercut.

10

14. A method of reusing the easy open closure apparatus for a container having a neck with a terminal end having an orifice and a radially outwardly extending bead having an outer surface and a radially outwardly extending undercut, an upper portion, and a lower portion, comprising:

- 15 a cap portion having a top panel, a peripherally depending side wall having a radially inwardly extending peripheral lip that engages said bead undercut securing said closure to said container, and a peripherally depending skirt; and

- 20 a handle depending from said cap portion, said handle further comprising an upper portion, a lower portion, and a fulcrum portion there between said upper and lower portions; comprising the steps of:

providing a container; and

- 25 pressing said cap portion of the easy open closure apparatus firmly down over said bead until said peripheral lip engages said bead undercut.

ABSTRACT

The present invention provides a container closure with a handle, wherein the handle acts as a lever when squeezed against the neck of the container. The force on the lever handle is transferred to the container closure forcing a portion of the closure to slip over the bead of the container and release the closure's hold on the container's top. Once the closure's hold is released, the closure is easily removed from the container. The closure is reusable and can be replaced over the container opening to secure the container's contents for storage or transport.

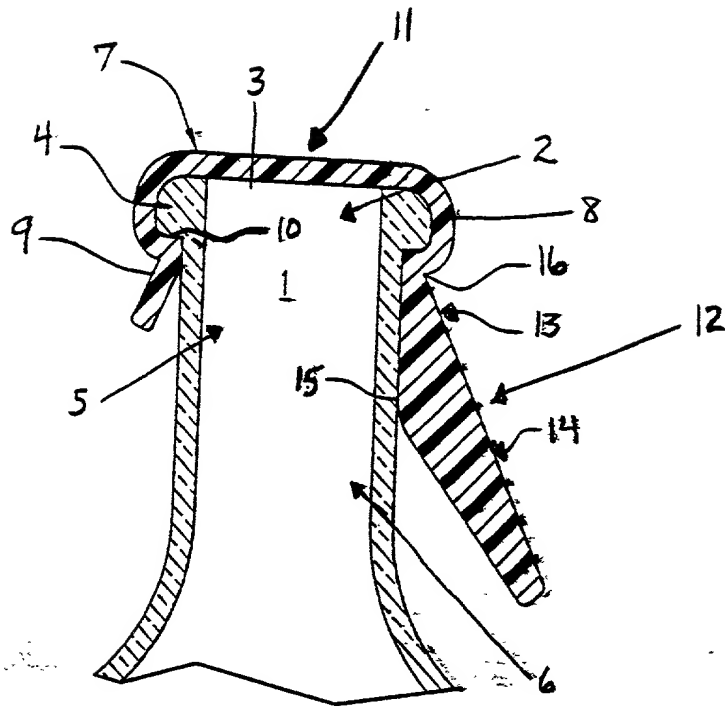


FIG. A

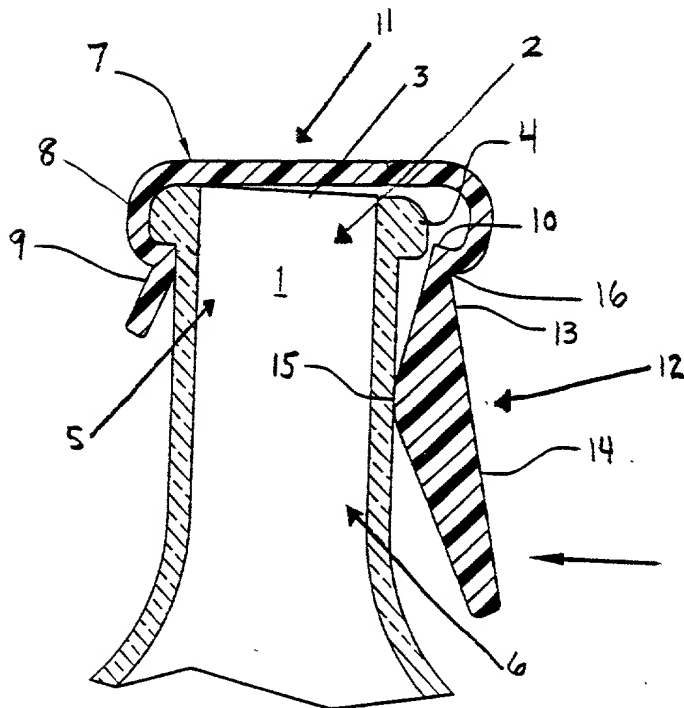


FIG. B

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

Docket No. 359.8559USU

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter that is claimed and for which a patent is sought on the invention entitled:

EASY OPEN CONTAINER CLOSURE

the specification of which

(check one) XX is attached hereto.

_____ was filed on _____ as Application Serial No. _____
and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to the examination of this application as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate(s) listed below and have also identified below any foreign application(s) for patent or inventor's certificate(s) having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s)</u>			<u>Priority Claimed</u>
			<u>Yes</u> <u>No</u>
_____ (Number)	_____ (Country)	_____ (Day/Mon/Year Filed)	<u>Yes</u> <u>No</u>
_____ (Number)	_____ (Country)	_____ (Day/Mon/Year Filed)	<u>Yes</u> <u>No</u>
_____ (Number)	_____ (Country)	_____ (Day/Mon/Year Filed)	<u>Yes</u> <u>No</u>

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

<u>60/136,332</u>	<u>May 26, 1999</u>	<u>Pending</u>
(Application Serial No.)	(Filing Date)	(Status - patent, pend., abandon.)
<u> </u>	<u> </u>	<u> </u>
(Application Serial No.)	(Filing Date)	(Status - patent, pend., abandon.)
<u> </u>	<u> </u>	<u> </u>
(Application Serial No.)	(Filing Date)	(Status - patent, pend., abandon.)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

NAMES	REGISTRATION NUMBERS
Paul D. Greeley	31,019
Charles N.J. Ruggiero	28,468
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Paul D. Greeley, Esq. Ohlandt, Greeley, Ruggiero & Perle, L.L.P. One Landmark Square, 9th Floor Stamford, Connecticut 06901-2682	Paul D. Greeley, Esq. Telephone: (203) 327-4500 Telefax: (203) 327-6401

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME OF INVENTOR	LAST NAME WALTERS, JR.	FIRST NAME LAWRENCE	MIDDLE NAME S.
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Inventor's signature:

Lawrence S. Walters, Jr.

Date: May 26, 2000